We claim:

1. A microfluidic method comprising:

taking a microfluidic device comprising a plurality of microvolumes; and

causing movement of material in a same manner within the plurality of microvolumes by applying centrifugal forces to the material.

2. A microfluidic method according to claim 1 wherein applying the centrifugal forces is performed by spinning the device.

3. A microfluidic method according to claim 1 wherein a same centrifugal force is applied to material in each of the plurality of microvolumes.

4. A microfluidic method according to claim 1 wherein at least 0.01 g is applied to the material in the device to cause the material to move within the microvolumes.

5. A microfluidic method according to claim 1 wherein at least 0.1 g is applied to the material in the device to cause the material to move within the microvolumes.

6. A microfluidic method according to claim 1 wherein at least 1 g is applied to the material in the device to cause the material to move within the microvolumes.

7. A microfluidic method according to claim 1 wherein at least 10 g is applied to the material in the device to cause the material to move within the microvolumes.

8. A microfluidic method according to claim 1 wherein the microvolumes each comprise a lumen having a cross sectional diameter of less than 2.5 mm.

9. A microfluidic method according to claim 1 wherein the microvolumes each comprise a lumen having a cross sectional diameter of less than 1 mm.

10. A microfluidic method according to claim 1 wherein the microvolumes each comprise a lumen having a cross sectional diameter of less than 500 microns.

11. A microfluidic method according to claim 1 wherein material is moved within at least 4 different microvolumes in a same manner when the centrifugal forces are applied.

12. A microfluidic method according to claim 1 wherein material is moved within at least 8 different microvolumes in a same manner when the centrifugal forces are applied.

13. A microfluidic method according to claim 1 wherein material is moved within at least 12 different microvolumes in a same manner when the centrifugal forces are applied.

14. A microfluidic method according to claim 1 wherein material is moved within at least 24 different microvolumes in a same manner when the centrifugal forces are applied.

15. A microfluidic method according to claim 1 wherein material is moved within at least 96 different microvolumes in a same manner when the centrifugal forces are applied.

16. A microfluidic method comprising:

taking a plurality of microfluidic devices, each device comprising a plurality of microvolumes; and

causing movement of material in a same manner within the plurality of microvolumes of the plurality of devices by applying centrifugal forces to the material.

17. A microfluidic method according to claim 16 wherein a same centrifugal force is applied to each of the plurality of devices.

18. A microfluidic method according to claim 16 wherein the plurality of microfluidic devices are stacked relative to each other when the centrifugal forces are applied.

19. A microfluidic method according to claim 16 wherein the plurality of microfluidic devices are positioned about a rotational axis about which the plurality of microfluidic devices are rotated to apply the centrifugal forces.

20. A microfluidic method according to claim 19 wherein the rotational axis about which the plurality of microfluidic devices are rotated is positioned within the lateral footprints of the plurality of microfluidic devices.

21. A microfluidic method according to claim 19 wherein the rotational axis about which the plurality of microfluidic devices are rotated is positioned outside of the lateral footprints of the plurality of microfluidic devices.

22. A microfluidic method according to claim 16 wherein material is moved within at least 4 different microvolumes of each device in a same manner when the centrifugal forces are applied.

23. A microfluidic method according to claim 16 wherein material is moved within at least 8 different microvolumes of each device in a same manner when the centrifugal forces are applied.

24. A microfluidic method according to claim 16 wherein material is moved within at least 12 different microvolumes of each device in a same manner when the centrifugal forces are applied.

25. A microfluidic method according to claim 16 wherein material is moved within at least 24 different microvolumes of each device in a same manner when the centrifugal forces are applied.

26. A microfluidic method according to claim 16 wherein material is moved within at least 96 different microvolumes of each device in a same manner when the centrifugal forces are applied.

27. A microfluidic method comprising:

taking a microfluidic device comprising a plurality of microvolumes; and

physically moving the device so as to effect a same movement of material within the plurality of microvolumes.

28. A microfluidic method according to claim 27 wherein the material moved in each of the plurality of microvolumes has a same quantity.

29. A microfluidic method according to claim 27 wherein the material is moved in a same manner within at least 4 different microvolumes of the device by the physical movement.

30. A microfluidic method according to claim 27 wherein an aliquot of material is moved in a same manner within at least 8 different microvolumes of the device by the physical movement.

31. A microfluidic method according to claim 27 wherein an aliquot of material is moved in a same manner within at least 12 different microvolumes of each device when the centrifugal forces are applied.

32. A microfluidic method according to claim 27 wherein an aliquot of material is moved in a same manner within at least 24 different microvolumes of the device by the physical movement.

33. A microfluidic method according to claim 27 wherein an aliquot of material is moved in a same manner within at least 96 different microvolumes of the device by the physical movement.

34. A microfluidic method comprising:

taking a microfluidic device comprising a plurality of microvolumes; and

accelerating or decelerating a motion of the device so as to effect a same movement of material within the plurality of microvolumes.

35. A microfluidic method according to claim 34 wherein the motion of the device is a rotation of the device.

36. A microfluidic method according to claim 34 wherein the motion of the device is a rotation of the device and the acceleration or deceleration is caused by a change in a rate of rotation of the device.

37. A microfluidic method according to claim 34 wherein the material moved in each of the plurality of microvolumes has a same quantity.

38. A microfluidic method according to claim 34 wherein the material is moved in a same manner within at least 4 different microvolumes of the device by the physical movement.

39. A microfluidic method according to claim 34 wherein an aliquot of material is moved in a same manner within at least 8 different microvolumes of the device by the physical movement.

40. A microfluidic method according to claim 34 wherein an aliquot of material is moved in a same manner within at least 12 different microvolumes of each device when the centrifugal forces are applied.

41. A microfluidic method according to claim 34 wherein an aliquot of material is moved in a same manner within at least 24 different microvolumes of the device by the physical movement.

42. A microfluidic method according to claim 34 wherein an aliquot of material is moved in a same manner within at least 96 different microvolumes of the device by the physical movement.

43. A microfluidic method accordingto claim 34 wherein an aliquot of material is moved in a same manner within at least 200 different microvolumes of the device by the physical movement.

44. A microfluidic method according to claim 34 wherein an aliquot of material is moved in a same manner within at least 1000 different microvolumes of the device by the physical movement.